

# Market and Public Organisation

## Ethnic Mix: How Segregated Are English Schools?

*Until now, there has been surprisingly little evidence on the degree to which English schoolchildren from different ethnic backgrounds are mixed. New research by **Simon Burgess** and **Deborah Wilson** reveals high levels of ethnic segregation in many secondary schools – higher than might be expected from levels of residential segregation and particularly high for pupils of South Asian origin.*

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It is commonly observed that people's attitudes are strongly influenced by their school days. The peer groups children study and play with are important factors moulding their perspectives on society. In this regard, the degree to which different ethnic groups are socially integrated at school is a major issue of political concern.

*The Last White Kids*, a Channel 4 documentary shown in October last year, followed a family of white children in schools that were overwhelmingly attended by children with South Asian ethnic origins. The influence of the school environment on the evolution of their attitudes was fascinating. But how common are such experiences? Aren't most schools mostly made up of white children? How does school segregation compare with residential segregation? And how do the answers to these questions vary across different ethnic groups and different areas of the country?

Surprisingly, there is very little contemporary evidence on this issue for

England. (This is emphatically not true in the United States, where levels of ethnic segregation across schools has been closely tracked since the Brown vs. Board of Education decision in 1954 introduced mandatory desegregation policies see [www.civilrightsproject.harvard.edu](http://www.civilrightsproject.harvard.edu) for recent evidence). This article reports recent findings using up-to-date data on the ethnic mix of English schools and neighbourhoods.

What do we mean by segregation? For this analysis, we use a measure that captures the evenness of spread of different groups of pupils across schools, or neighbourhoods, within a larger geographical area. An area is highly segregated if a significant proportion of pupils would have to move schools (neighbourhoods) in order to achieve an even distribution across each unit.

So, for example, if 20% of the school population of a local education authority (LEA) is of Indian ethnic origin, there is no segregation if in each school 20% of the pupils are of Indian ethnic origin; that is, if there is an even spread of that group across the schools. The more the actual distribution is uneven, the higher the degree of segregation. This index of unevenness ranges from 0 to 1: a figure of 0.6, for example, means that 60% of pupils from a certain group would need to move to achieve an even spread.

To measure school segregation, we use data from the 2001 Annual Schools Census, focusing on state maintained secondary schools in England (where the pupils are aged from 11 to 16 or 18). The available data give us the number of pupils in each school classified as being of: black Caribbean heritage, black African heritage, black other heritage, Indian ethnic origin, Pakistani ethnic origin, Bangladeshi ethnic origin, Chinese ethnic origin, other minority ethnic origin and white ethnic origin.

Here, we report our results for two aggregated groups: 'Black', comprising the three black groups; and 'South Asian', comprising Indian, Pakistani and Bangladeshi. (More comprehensive results

for each minority ethnic group are available in the CMPO discussion papers that this article summarises – see below.)

To measure neighbourhood segregation, we use ward-level data from the 2001 Population Census. We consider individuals aged between 10 and 17 (the closest match to our secondary school data) and aggregate the Census ethnicity classifications to those listed above to ensure comparability between the two datasets. For both our school and neighbourhood segregation analyses, we take the LEA as the aggregate spatial unit – so we consider segregation of pupils across schools within an LEA and compare that with segregation of (more-or-less) the same pupils across wards within the same LEA.

In England in 2001, the secondary school-age population over the country as a whole comprised approximately 87% white pupils, 6% of South Asian origin and 3% of black heritage. While most schools and wards are overwhelmingly white (with medians of 97% and 96% respectively), there is substantial geographical variation, largely reflecting the residential clustering of different minority groups across England. For example, there are only 16 LEAs with more than 5% pupils of black Caribbean heritage; and only 6 LEAs have more than 10% of pupils of Pakistani ethnic origin.

So how highly segregated are England's schools and neighbourhoods? We calculate the index of unevenness for each LEA separately and for each minority ethnic group separately. This allows us to consider differences in segregation across different areas of the country. Table 1 shows some details of the distribution of segregation in schools across LEAs. Recall that the index runs from 0 (no segregation) to 1. Table 1 shows the average and two other measures of the spread – the 10<sup>th</sup> percentile is the value below which 10% of LEAs fall and the 90<sup>th</sup> percentile is the value above which 10% of LEAs fall. For both aggregated ethnic groups, there is a substantial range of values. Table 2 presents the same statistics for the same groups, only looking at segregation in terms of where the pupils live.

Table 1: School segregation

	10 <sup>th</sup> percentile	median	90 <sup>th</sup> percentile
South Asian	0.320	0.501	0.643
Black	0.236	0.399	0.553

Table 2: Neighbourhood segregation

	10 <sup>th</sup> percentile	median	90 <sup>th</sup> percentile
South Asian	0.296	0.549	0.727
Black	0.228	0.556	0.829

So what do these numbers reveal?

- First, levels of segregation are generally high. In the average LEA, the index is around 0.5, which tells us that about *half* the members of these groups in the LEA would have to move school (or neighbourhood) in order to achieve an even spread.
- Second, there is substantial variation in the levels of segregation experienced in different areas of England, illustrated by the range of values of the index.
- Third, there are differences across the minority ethnic groups: South Asians generally experience higher levels of segregation than their black peers.

How does school segregation compare with residential segregation? Figures 1 and 2 (See next page) plot the level of school segregation in an LEA against the level of residential segregation. Each circle represents an LEA, weighted by the numbers of pupils of black (respectively South Asian) students in its population, such that the size of circle reflects the size of the specific minority ethnic school-age population in the LEA.

These figures confirm both that South Asians generally experience higher levels

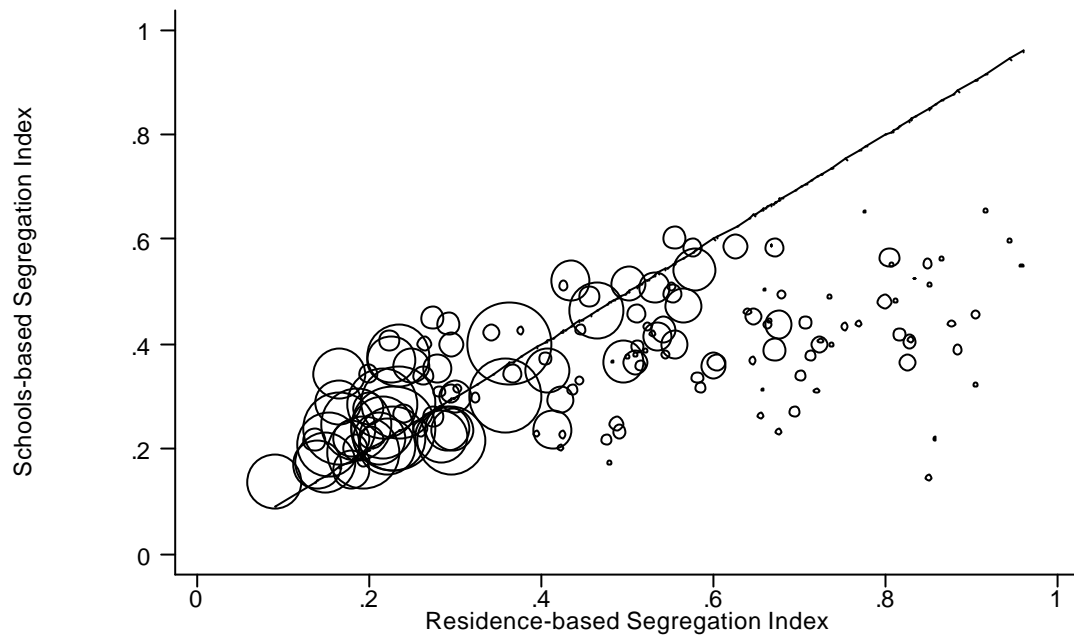
of school and neighbourhood segregation, and that levels of segregation for this group do not fall as their proportion in the population increases. In addition, the figures show that for both South Asian and black students, school segregation is higher than residential segregation in areas in which they are more numerous. These are generally some of the more densely populated, urban areas of England.

These findings are the first contemporary evidence on ethnic segregation in England's schools. As expected, they confirm that school segregation is closely related to residential segregation. Levels of segregation are generally high, yet vary considerably around the country.

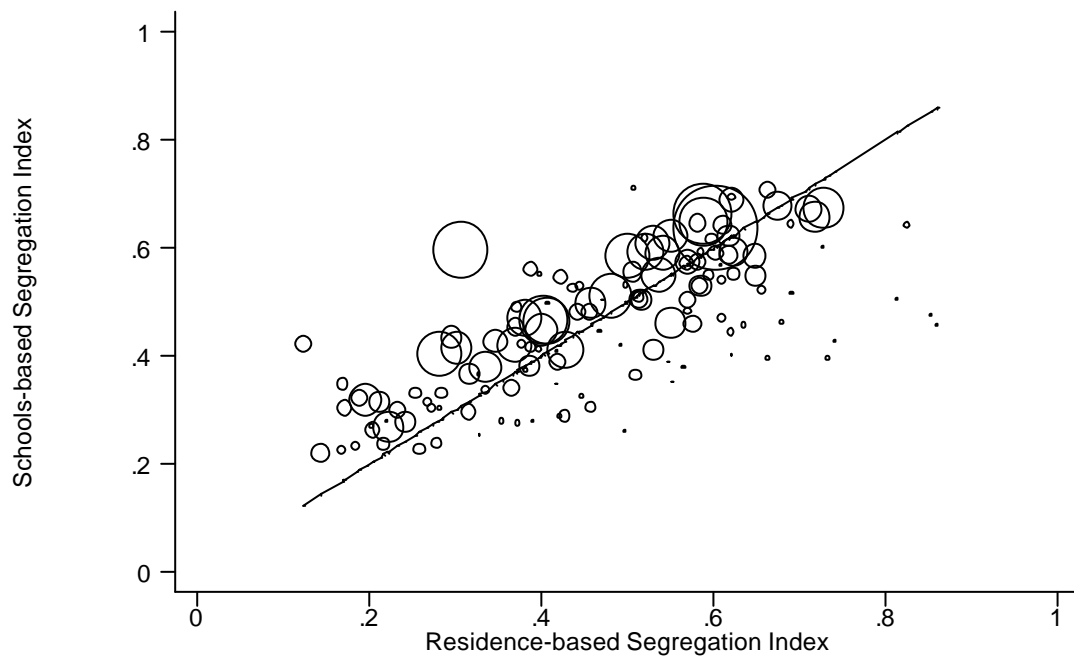
Some interesting differences emerge from the analysis. South Asians experience higher levels of segregation than their black peers, both at school and in their neighbourhoods. And both groups are more segregated at school than at home in more densely populated areas. This suggests that there is a loosening of the relationship between school and residential segregation in areas in which there is more school choice – and in such a way that pupils from different ethnic backgrounds are more segregated in the playground than in their neighbourhoods.

*South Asians experience higher levels of segregation than their black peers, both at school and in their neighbourhoods*

**Figure 1: Plot of residence-based against school-based segregation indices: aggregate 'Black' student group, weighted by numbers in the group**



**Figure 2: Plot of residence-based against school-based segregation indices: aggregate 'South Asian' student group, weighted by numbers in the group**



This article summarises 'Ethnic Segregation in England's Schools' by Simon Burgess and Deborah Wilson, CMPO Discussion Paper No. 03/086, and 'Parallel Lives? Ethnic Segregation in the Playground and the Neighbourhood' by Simon Burgess, Deborah Wilson and Ruth Lupton, CMPO Discussion Paper No. 04/094 For the full papers, see: <http://www.bris.ac.uk/Depts/CMPO/workingpapers/workingpapers.htm>

# Competition Law in the Media: Will Ofcom Make a Difference?

*Ofcom, the new single regulator for telecoms, TV and radio, is up and running. CMPO's regulation expert **Paul Grout** assesses what it is likely to mean for the application of UK competition law to the communications industries and foresees a big culture shock for media companies.*

Back at the end of the last millennium, communications convergence was thought to be just round the corner. Before we knew it, we'd all be watching TV and radio delivered on demand over the internet, chosen from an endless array of programmes, sandwiched between on-screen chats with friends and interactive purchasing and auctioning from an endless stream of dotcom companies that would spring up as required because of the low entry costs of the new technology. Music would be sampled and downloaded when we wanted it, whether at home or on the move; the days of the record store and CD were clearly numbered.

In such a world, it would clearly be impossible to try to regulate these markets with separate regulators for telecoms, TV and radio. Indeed, in the new digital age, it would not be long before these definitions became meaningless and any attempt to base content, competition and ownership regulations on such dated distinctions would be doomed to failure. Regulation for the new converged era was essential.

The government responded with great enthusiasm, a juggernaut set off on its mission to create a single regulator for communications before it was too late and duly on 29 December 2003, while most of the country was slumbering between Christmas and New Year, Ofcom, the Office of Communications, was born.

Unfortunately, between the decision to create a single regulator and its inception, convergence failed to arrive. The dotcom collapse, the savaging of telecoms shares and investment and the overly ambitious auction prices for mobile spectrum have all helped to put the whole convergence strategy on hold. Convergence is still

coming – but at a more considered and sustainable pace, not in a gale of hectic innovation and investment. We now have a convergent regulatory framework before we have a convergent market – so will anything change?

Ofcom replaces five regulatory bodies – the Broadcasting Standards Commission (BSC), the Independent Television Commission, the Radio Authority, the Radiocommunications Agency and Oftel (the Office of Telecoms). Its brief ranges from standard economic issues such as continuing price regulation in some telecoms markets to policing standards of taste and decency. Indeed, regulation of standards has been tightened. For example, unlike the BSC, Ofcom will be able to levy fines on the BBC for breaches of its codes, including codes on programme standards. At the same time, to enforce content regulation, Ofcom has a large content board with a broad mix of members such as the Olympic gold-medallist Jonathan Edwards.

The strengthening of regulation within Ofcom has turned out to be a common theme. Rather than using the creation of a single body as an opportunity to streamline and reduce regulatory controls, the regulatory duties and functions have risen enormously: from 128 for the five 'legacy regulators' to 263 for Ofcom, more than double its predecessors' obligations. The new framework is clearly not the light-handed and flexible model that was originally intended to accompany the dynamic converged world of communications.

Of particular significance are the implications of the new regulatory body for competition policy. The Communications Act that created Ofcom has also liberalised

*The new regulatory framework is not the light-handed and flexible model that was originally intended to accompany the converged world of communications*

*Media companies like BSkyB and the BBC will all face a cultural change, with Ofcom implementing competition law rather than the conventional competition authority*

ownership rules in the media, which suggests that there will be considerable merger activity in the future. But even in the absence of ownership changes, there is likely to be a great deal of activity in the sector around competition issues. In recent years, there have been many such issues arising from the three major players – BSkyB, BT and the BBC – and their interaction with others in the industry. These are likely to become more significant. The new Ofcom framework brings a change of structure for these players and evidence from the ‘Of tel approach’ suggests that we may see some policy problems.

Since March 2000, the 1998 Competition Act has formed the central framework for UK competition law. Under this legislation, sector-specific regulators have the same powers within their sectors as those enjoyed by the Office of Fair Trading (OFT). In other words, the OFT applies the Competition Act generally while the sector-specific regulators – such as those for gas, electricity, telecoms and water – apply it to activities falling within their sectors. This process is known as ‘concurrent application’.

Ofcom brings together two different groups of companies: telecoms companies, which were previously regulated by Of tel and hence subject to implementation of the Competition Act by Of tel; and media companies, which were subject to implementation of the Competition Act by the OFT.

The government had the choice of extending the concurrent application of the Competition Act to Ofcom or dropping it from the sector. Extending concurrent application would have brought all the competition activities of the convergent sectors under the control of a regulatory body while dropping it would have brought the telecoms companies into line with the rest of the media and moved telecoms away from the model applied to water, gas and electricity. The government chose the former route so now BSkyB, ITV, the BBC, the radio companies, etc. will all face a cultural change, with Ofcom implementing competition law rather than the conventional competition authority.

During the period when Of tel was in a position to implement the Competition Act in telecoms (roughly the two and a half years up to the introduction of Ofcom), it rarely did so. Instead, it tended to fall back on the use of regulatory powers. But this will not be as easy in the context of broadcasters where there is little in the way of equivalent economic powers. Indeed, post-Hutton, the BBC may have to operate in more competitive environment, which will increase the potential for competition disputes. So what is likely to happen when Ofcom comes to implement the Competition Act?

It is important to recognise that there are significant differences between the UK regulatory model and competition law. The regulatory model that has developed in the UK around the duties of sector-specific regulators has been strong on ‘ex ante’ (before the fact) regulation of behaviour and prices, particularly the latter. All sector-specific regulators impose price caps on companies and the process of removing these has been slow. For example, a previous telecoms regulator’s forecast that the price cap implemented in 1997 would be the last has proved incorrect.

Competition law, in contrast, is essentially about preventing abusive behaviour and this leads to a different regulatory framework. The drive is to improve productivity and choice; lower prices will follow but they are not the direct target. The competition law approach takes an ‘ex post’ (after the fact) view of behaviour, intervening only when a company is in a dominant market position and has abused that position. Companies are unlikely to be found guilty of excessive pricing simply because their returns are somewhat above the cost of capital. Indeed, the guidelines of the Competition Act make it clear that the OFT ‘is unlikely ... [to] conclude that an undertaking was abusing a dominant position solely on the evidence of supra-normal profit.’

There is a significant wedge between the ex ante sector-specific regulation model and the ex post competition law model in terms of their approaches to profitability. Evidence from the Competition Commission and its predecessor, the Monopolies and Mergers Commission



(MMC), confirms this. The average profitability of cases considered by the MMC since the 1970s has been over 40% and, on average, companies where the MMC found no reason to intervene have had almost as much profit as those where the MMC made an adverse finding. Similarly, when looking at companies with high market shares, there is a limited, albeit larger, difference between cases where there was an adverse finding and those where there wasn't.

There is a major difference between, on the one hand, the sector-specific regulators' views as to what constitutes an acceptable return in a competitive market and, on the other hand, what is deemed acceptable under competition law. So consistent application of the Competition Act requires sector-specific regulators like Ofcom to apply two different models of regulation simultaneously.

This means that when dealing with pure competition issues, Ofcom analysts must disregard their duties as sector-specific regulators and act solely in accordance with their duties as competition authorities. They must not be influenced by tests or considerations that are relevant in regulation but not in competition law (such as distributional concerns or market power thresholds less than dominance). If they fail to maintain this distinction, we can expect to see signs of 'regulatory overspill' into the interpretation of competition law and inconsistent application of the law.

Avoiding regulatory overspill is essential but may not be easy. For example, there was clear evidence of regulatory overspill in the sector-specific guidelines for Oftel, which included regulatory structures such as LRIC (a specific cost allocation system used in telecommunications regulation) and combinatorial tests (a price-cost relationship used to designed to set limits on the prices of regulated companies). This suggests that Ofcom will have to be careful if they wish to ensure that there is not a significant change in the application of the Competition Act within the media and a clash with the major broadcasters.

Of course, there are those who argue strongly that this is exactly what should happen. Notably, the new head of telecoms firm NTL (who succeeded Stephen Carter, now chief executive of Ofcom) is looking for a 'robust' approach. What's more, the leading players at Ofcom are very keen to be seen as a tough outfit.

But if toughness in competition law comes from regulatory overspill, then there is likely to be an equally robust challenge from the media companies in the Appeal Tribunal. One way of minimising the problem is to avoid the provision of sector-specific guidelines for the communications sector but this is unlikely to happen. So there is likely to be a big culture shock for media companies.

*If Ofcom makes significant changes in the application of the Competition Act within the media, there could be a clash with the major broadcasters*

## Performance Pay for Civil Servants?

*Should the government pay its employees by results? A team of CMPO researchers – Simon Burgess, Carol Propper, Marisa Ratto and Emma Tominey – assesses the impact of team-based incentive schemes on the performance of public sector workers and finds that such schemes can be effective if carefully designed.*

Performance pay for civil servants is one of the most contentious issues in the debate on public service reform. Some argue that a little private sector discipline would help improve flagging public sector productivity; others believe that since much public sector work is about care and

service, specifying desired outcomes in contracts would erode public service motivation. What has been lacking from this debate is evidence and that is what is now emerging from a major CMPO research project.

In 2001, the government ran pilot schemes of performance pay in three major agencies and a CMPO team has been evaluating the outcome. We report here on the evidence so far, focusing on Jobcentre Plus. The results suggest that performance pay schemes may have a place in public service reform, but that they need to be carefully designed. In particular, given that the government has chosen to run team-based incentive schemes, the definition of what constitutes a team is crucial.

The UK's network of around 1,300 Jobcentre Plus offices has two main roles: to help place job seekers in work and to administer benefits; it also advises on training needs. The job placement activity itself has two dimensions: quantity – the number of people successfully helped into employment and the number of employers' vacancies filled – and quality – the standard of customer service, the quality of advice, the accuracy of benefit calculation, etc.

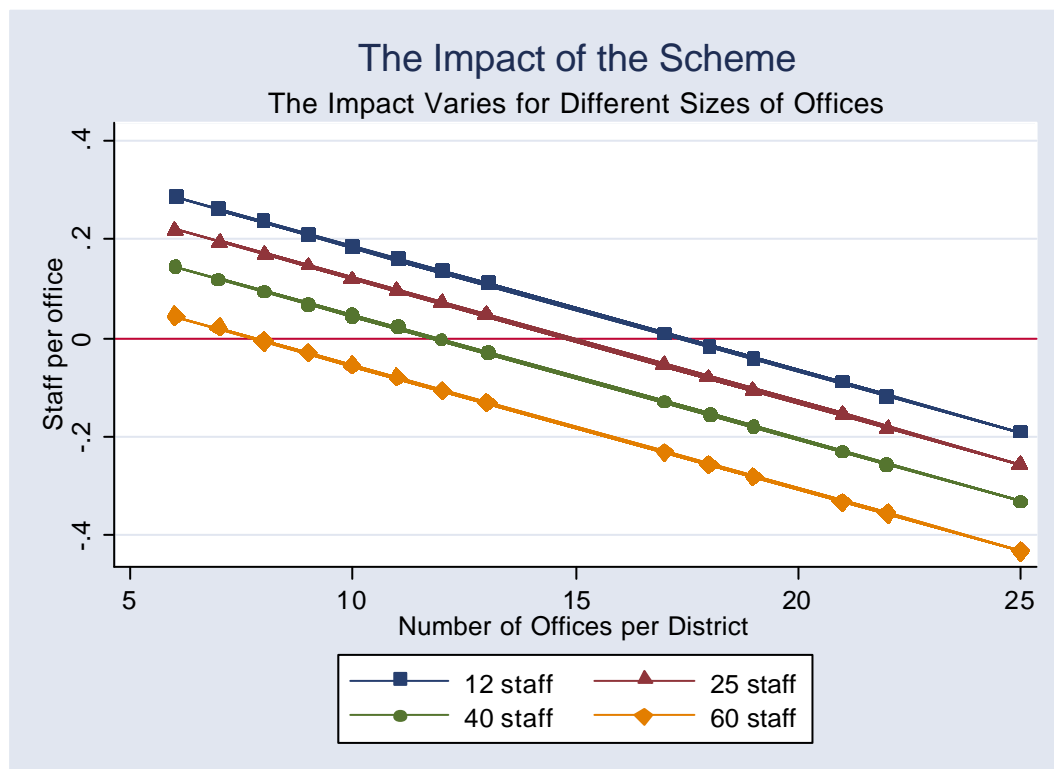
The government cares about quantity and quality and has incorporated both into the incentive scheme. Traditionally, one problem with such schemes is that quality is neglected relative to quantity. In fact, this scheme recognised this and established five

different targets: the number of job placements; customer service; filling the vacancies notified by firms; other aspects of business delivery; and reduction of fraud and errors in benefit calculation. Staff were to be paid a fixed rate bonus for each target hit, around 1% of salary. At least two targets had to be reached to get any bonus and if all five were hit, there was an extra reward of another 2.5% of salary.

One key feature of the incentive scheme is that it is team-based. Unlike an individual performance pay scheme, the target is set collectively for a group of workers – the team – and everyone receives the bonus if the target is hit. The definition of the team is thus key to the likely outcome of the scheme.

Economists have identified one potential problem with team-based incentives: the phenomenon of free riding, where individuals can benefit on the back of other people's efforts. Conversely, basing the scheme around teams rather than individuals may complement and enhance public service motivation.

*Team-based performance pay schemes may have a place in public service reform – but they need to be carefully designed*





In this case, the teams were defined at the level of the Jobcentre Plus district. These are large teams, with up to 171 offices and 2,000 staff. This 'team' is created only by the reward system – there appear to be few operational links between offices in a district. However, a 'natural' team encompasses the workers within each office. There is enormous variation in staff numbers within the offices, ranging from 5 to 400+. Given the size of the offices and the cross-office co-ordination required to hit a district-level target, there are likely to be significant free-rider problems. We would expect these to be greater – and hence the impact of the scheme weaker – the more staff in the office and the more offices in the district.

Of the five performance targets in the incentive scheme, some are more difficult to measure than others. Job placements, for example, can be measured relatively precisely whereas customer service can only be estimated using sample surveys. Consequently, on the principle that 'what gets measured gets done', we might expect to see staff allocate their effort more towards those activities that are most easily measured and for which the individual contribution to aggregate output is clearer.

The incentive scheme was piloted in 17 out of the 90 districts in Jobcentre Plus for one year, from April 2002 to March 2003. The CMPO team analysed data from Jobcentre Plus's management information systems on the measured outputs, and on staffing from their personnel system; to this, we matched data relating to each office's local labour market. We used a variety of statistical techniques to evaluate the outcome of the pilot.

These are the key findings:

- First, our results suggest a significant positive effect of the incentive scheme on the main quantity measure – job entries. If we compare performance

between incentivised and non-incentivised districts, controlling for local labour market conditions and other observable characteristics, the average effect of the scheme is an 11% increase in the number of people put into jobs in incentivised districts.

- Second, the data confirm our conjecture that the impact of the scheme would vary with the number of staff in an office and the number of offices in a district. This fits well with the idea of a free-rider problem in team-based incentive schemes. But it is important to stress that the problem was not sufficient to make the scheme unsuccessful. We illustrate these results in Figure 1, which plots the incentive effect against the number of offices in a district, for various numbers of staff per office. It is clear not only that the incentive effect decreases with the number of offices per district, but that this negative effect has far greater magnitude for large offices.
- Third, we find that the scheme has no impact on customer service. This can be taken two ways. On the one hand, the increase in quantity was not achieved at the expense of lower quality. On the other hand, there appeared to be no positive effect of the incentivisation on the quality of service. This might be because of the necessarily lower imprecision of measuring quality, so workers believe that higher effort may only have a marginal effect on the target.

One important implication of these results is that the definition of the team is crucial for any team-based incentive scheme. A careful design of teams, one that takes into consideration the likely impact of the free-rider problem, should deliver more effective incentive mechanisms.

*Incentive schemes piloted at Jobcentre Plus offices led to more people being put into jobs – but they had no impact on customer service*

This article summarises 'Incentives in the Public Sector: Some Preliminary Evidence from a UK Government Agency' by Simon Burgess, Carol Propper, Marisa Ratto and Emma Tominey, CMPO Discussion Paper No. 03/080. For the full paper, see: <http://www.bris.ac.uk/cmppo/workingpapers/workingpapers.htm>. The research is funded by the Evidence-based Policy Fund, the Public Services Productivity Panel and the government departments.

# Competition in Health Care: Lessons from the United States

*Competition has increasingly been seen as a way to improve the efficiency of the UK's health care services. But as CMPO Associate **Martin Gaynor** finds in his research on US health care markets, competition can be threatened by industry consolidation, even when a large proportion of operators are private 'not-for-profits', akin to the UK's planned foundation hospitals.*

One of the most important industries in the US economy is health care, accounting for over one and one-half trillion dollars in expenditure annually and over 15% of GDP. This industry is also one in which competition is a real issue. The United States relies on markets to deliver health services and hence competition is essential for the functioning of the health care system. But the extensive consolidation that has occurred in recent years has led to real concern about the impact on the competitive functioning of health care markets, as evidenced by the extensive recent hearings held by the US Federal Trade Commission and the Antitrust Division of the US Department of Justice (<http://www.ftc.gov/ogc/healthcarehearing/s/index.htm>).

During the second half of the 1990s, a dramatic wave of hospital consolidation occurred in the United States. One source puts the total number of hospital mergers between 1994 and 2000 at over 900 deals on a base of approximately 6,100 hospitals. What's more, many local markets, including quite a few large cities such as Boston, Minneapolis and San Francisco, have come to be dominated by two to three large hospital systems. Not surprisingly, many health plans have complained about rising prices as a result of these consolidations.

This transformation raises concerns about the effects on competition and emphasises the need for a better understanding of the nature of competition in these markets. Of particular interest is the difference in behaviour between for-profit and not-for-profit hospitals, given the prominence of the not-for-profit form in this industry. Approximately 65% of US hospitals are

private not-for-profit firms, with the remainder organised as either private for-profit firms or public hospitals.

Hospital markets have been an active area of antitrust enforcement. Since 1984, the federal antitrust authorities have brought 11 suits seeking to block hospital mergers. But they have won only one of the six cases brought since 1993, and even in this case, the government subsequently lost on appeal.

Not-for-profit status has played a key role in hospital antitrust cases. Not-for-profit hospitals wishing to merge have argued that they will not raise prices after merging since they are motivated by community interest rather than profit.

Court reactions to this have ranged from sympathetic – 'The board of University Hospital is quite simply above collusion' – to outright rejection – 'no one has shown that (not-for-profit status) makes the enterprise unwilling to co-operate in reducing competition ... which most enterprises dislike and which non-profit enterprises may dislike on ideological as well as selfish grounds.' On balance, however, the courts have been receptive to this line of argument.

To date, the research literature on hospital competition has consisted largely of 'structure-conduct-performance' studies, which look at how outcomes depend on the degree of market concentration – the extent to which the quantity bought and sold in a market is concentrated among a few firms. The hypothesis is that less concentrated markets are more competitive, and thus should have lower prices. These studies find that, at least during the 1990s, hospital

*Health care in the United States accounts for over one and one-half trillion dollars in expenditure annually and over 15% of GDP*

prices are lower in less concentrated markets. There is more variation in the results of the small number of studies that examine this relationship for not-for-profits and for-profits separately, however. Three of these papers find that both not-for-profit and for-profit hospitals set higher prices in more concentrated markets. Two others, however, find that not-for-profit hospitals set lower prices in more concentrated markets, while for-profits set higher prices.

While the results from this literature are interesting, structure-conduct-performance methods suffer from well known deficiencies for testing hypotheses about competitive conduct. In particular, it is difficult to be clear about the direction of causation between concentration and prices. In addition, this type of modelling makes it extremely difficult to sort out the differences in results between the studies of not-for-profit pricing. These studies cover different time periods, use different geographical and product markets and employ different functional forms. The methods employed makes it difficult to assess the reasons for the different results across these studies, let alone evaluate their relative merits.

There is also an emerging ‘structural’ hospital competition literature. This work draws on recent methods developed for the study of ‘differentiated product oligopoly’ – where a market is dominated by a handful of firms and the product is not homogenous. Given the differentiated nature of the product in the health care industry, and the fact that a small number of hospitals are present in any market, this model is a good fit. In this literature, consumer-level data are used to estimate models of demand for hospital services, and then the information from the demand estimation is used to calculate the market power of various hospitals.

Research by Robert Town and Gregory Vistnes and by Cory Capps and colleagues uses these demand systems to calculate measures of the marginal value of adding a hospital to a network. Town and Vistnes then examine the relationship between their measure of a hospital’s marginal value and the prices paid by health plans to hospitals. They find that hospitals with a high marginal value, either because of isolation

in their product space or because of high average utility, receive higher payments.

Capps *et al* examine the relationship between their marginal value measure and hospital profit margins and also find a positive relationship. In a related study, they use their demand estimates to simulate mergers and find that mergers of hospitals even in markets that look quite ‘competitive’ by conventional antitrust methods would nevertheless lead to large price increases.

In a recent study with my colleague William Vogt (CMPO Discussion Paper No. 03/87), we attempt to understand the nature of hospital competition and the implications for antitrust policy, in particular, differences in the exercise of market power between for-profit and not-for-profit hospitals. To that end, we estimate a structural model of hospital conduct that explicitly allows for differences between for-profits and not-for-profits, and then use the estimates to simulate the effects of a merger. We simulate merger effects for both a merger between for-profits and a merger between not-for-profits.

Using detailed micro data from California on patients and hospitals in 1995, we find that hospitals face significant, but not large, elasticities of demand for their services – the extent to which demand responds to changes in price. Not-for-profit hospitals face less elastic demand, and set lower prices, but have higher markups (26%) than for-profits (20%) because of lower marginal costs.

The merger simulation shows no difference in the willingness of not-for-profits and for-profits to exploit merger-created market power. The simulation results in post-merger price increases of up to 58%, regardless of whether the hospitals are for-profit or not-for-profit. In particular, the merger we simulate was one in which the US Federal Trade Commission intervened and forced divestiture of one of the hospitals owned by the merging firms. Our simulations show post-merger price increases of up to 58% absent the Federal Trade Commission’s intervention compared with increases of 2% or less with the intervention.

*Mergers in the health care industry mean higher prices, even mergers between not-for-profit hospitals*

These results have important implications for policy. Competition matters; and mergers can have significant anti-competitive effects. Thus far, the US antitrust enforcement agencies have not treated not-for-profit hospital mergers differently. Not-for-profits have defended themselves by claiming that, since their

objective is to benefit the community, they would not exploit any market power gained as a result of mergers. The courts have been sympathetic to this view and rejected government requests to block mergers between not-for-profit hospitals. Our results indicate that, at least on average for the hospitals in our data, this is not correct.

Recent CMPO Discussion Papers report research by Martin Gaynor on the economics of US health care: No. 03/087: 'Competition Among Hospitals' (with William Vogt); No. 03/088: 'Entry and Competition in Local Hospital Markets' (with Jean Marie Abraham and William Vogt); and No. 03/089: 'Incentives in HMOs' (with James Rebitzer and Lowell Taylor).

For related material for the UK, see these CMPO Discussion Papers: No. 00/027: 'Does Competition Between Hospitals Improve the Quality of Care? Hospital Death Rates and the NHS Internal Market' by Carol Propper, Simon Burgess and Katherine Green, December 2000 (also *Journal of Public Economics*, forthcoming 2004); and No. 03/077: 'Competition and Quality: Evidence from the NHS Internal Market 1991-1999' by Carol Propper, Simon Burgess and Denise Gossage, May 2003.

All papers are available at: <http://www.bris.ac.uk/cmppo/workingpapers/workingpapers.htm>

For a wide-ranging survey on US health care markets, see Martin Gaynor's paper with Deborah Haas-Wilson: 'Change, Consolidation and Competition in Health Care Markets' (*Journal of Economic Perspectives*, 1999). Gaynor is E.J. Barone Professor of Economics and Public Policy at Carnegie Mellon University.

#### RECENT AND UPCOMING WORKSHOPS AND CONFERENCES

19<sup>th</sup> March 2004 **Public Organisation and the New Public Management**

16/17<sup>th</sup> April 2004 – **A Dynamic Approach to Europe's Unemployment Problem**

19<sup>th</sup> April 2004 – **Performance and Choice in Education**

Speakers include Professor Harvey Goldstein, Institute of Education, London  
Steve Machin Director of the CEE at the LSE, UCL and  
Professor Douglas Staiger, Dartmouth College and NBER

15/16<sup>th</sup> June 2004 – **The Impact of Local Area Influences on Individual Outcomes**

Speakers include: Professor Greg Duncan, Northwestern University, and Director, Joint Center for Poverty Research, Northwestern University and University of Chicago, and  
Professor Steve Raudenbusch, School of Education, University of Michigan

All venues are in Bristol

For further information or to book a place contact

Lucy Chivers on (0117) 928 9019 or visit the CMPO website

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